Merrimack Village District Case Study

The Merrimack Village District (MVD) provides drinking water to the town of Merrimack, NH from seven production wells. About 70% of the town is served by MVD, the rest are on private wells. With about 25,000 in total population, Merrimack is one of the larger communities in New Hampshire that relies on groundwater. This is largely due to a combination of the large sand and gravel aquifer that runs diagonally through the community and the town's rigorous wellhead protection efforts.

The wellhead protection areas for the community were roughly delineated in 1992, allowing better focus on the threats at hand. As is the case in many communities, the zones of contribution did not match the town's earlier aquifer protection bylaw. Also, the existing regulations for aquifer protection have been largely ignored and numerous zoning variances and exemptions have been granted over the years. The result was important recharge areas that have potentially disastrous land uses such as gas stations, auto body shops and high risk manufacturing facilities. Changing this type of threat has been particularly challenging for MVD because it is a separate village district and not directly associated with town government.

Since the original rough delineation in 1992, MVD has taken on several wellhead protection related projects that have brought the district to the forefront of wellhead protection. These have included:

1. The appointment of a Wellhead Protection Committee that very effectively coordinated between MVD and the town.
2. Focus on the most critical contaminants to groundwater, including nitrates, bacteria and volatile organic compounds.
3. The development of a public education program (reported on in the morning by Susan Homan) that includes a fulltime educator, newsletters, media releases, a web site, poster contests, and grade wide education program.
4. Modification of subdivision and site plan regulations for better groundwater protection.
5. The development of a detailed groundwater study to evaluate aquifer recharge and losses.
6. The appointment of an Ad Hoc Committee to study unexplained water losses, including stormwater recharge, in one the District's aquifers.
7. Visitation of all businesses in wellhead protection areas.
8. Annual wellhead protection reports.

Facilitator: Eileen Pannetier

Eileen Pannetier is the founder and President of Comprehensive Environmental, Inc., an environmental consulting firm with offices in Merrimack, New Hampshire and other New England locations. She is a water quality specialist with experience in hydrology, watershed analysis, and groundwater protection for water supplies. Ms. Pannetier has advised many water suppliers on watershed and wellhead management issues, and has completed over two dozen major source protection projects throughout New England and the Northeast.

Ms. Pannetier was also a Water Commissioner in her hometown of Merrimack for about 8 years. She is a former chairman of the Wellhead Protection Committee in Merrimack and is currently the Chairman of the MVD's Ad Hoc committee on water losses. She worked with NH DES on their recent update of the Groundwater and Surface Water Protection Strategy and has been an active member of New England Water Works Association (NEWWA) for several years. She recently completed teaching a series of 8 workshops statewide in Massachusetts on wellhead protection for small systems for NEWWA under a contract to the Massachusetts Department of Environmental Protection.